

Amendments to the Claims:

1.-34. (Cancelled)

<sup>1</sup>  
~~35.~~ (Currently Amended) A method of ~~treating~~ implanting human intervertebral disc ~~diseases~~ cells into a patient with damaged or diseased intervertebral disc tissue comprising the steps of:

- a) providing ~~[[a]]~~ minced human intervertebral disc cells;
- b) culturing said minced human intervertebral cells under conditions to propagate and form a monolayer of human intervertebral disc cells;
- c) isolating ~~the~~ said cultured human intervertebral disc cells from said monolayer;
- d) seeding said isolated cells in a carrier such that the isolated cells are dispersed and distributed in the carrier;
- e) further culturing said dispersed and distributed cells in said carrier; and
- f) implanting said carrier into a target disc area needing treatment in a human patient.

36. (Cancelled)

<sup>2</sup>  
~~37.~~ (Previously Presented) The method according to of Claim <sup>1</sup>~~35~~ wherein said carrier is a member of the group consisting of alginate, agarose, collagen, and mixtures thereof.

<sup>3</sup>  
~~38.~~ (Previously Presented) The method according to of Claim <sup>1</sup>~~35~~ wherein at least a portion of said propagated human intervertebral disc cells have re-expressed extracellular matrix materials.

<sup>Ex. amend</sup> <sup>3</sup>  
~~39.~~ (Currently Amended) A method of ~~treating a diseased or injured~~ implanting human intervertebral disc cells into a patient with damaged or diseased intervertebral disc tissue comprising the steps of:  
obtaining live human intervertebral ~~human~~ disc cells;

culturing said live human intervertebral disc cells under conditions to propagate cultured intervertebral disc cells; and

implanting said cultured live human intervertebral disc cells into a target disc area needing treatment in a human patient.

<sup>5</sup>  
~~40.~~ (Currently Amended) The method according to Claim <sup>4</sup>~~39~~<sup>e</sup>, wherein said live human intervertebral disc cells are obtained from said human patient to be treated.

<sup>6</sup>  
~~41.~~ (Currently Amended) The method according to Claim <sup>4</sup>~~39~~<sup>e</sup>, further comprising the step of mincing said live human intervertebral disc cells to obtain an explant prior to culturing.

<sup>13</sup>  
~~42.~~ (Previously Presented) The method according to Claim <sup>4</sup>~~39~~<sup>e</sup>, wherein said cultured human intervertebral disc cells are combined with a carrier material.

<sup>14</sup>  
~~43.~~ (Previously Presented) The method according to Claim <sup>13</sup>~~42~~<sup>e</sup>, wherein said carrier material is selected from the group consisting of alginate, agarose, collagen, and mixtures thereof.

<sup>7</sup>  
~~44.~~ (Previously Presented) The method according to Claim <sup>6</sup>~~41~~<sup>e</sup>, wherein said explant is cultured in the presence of a material selected from the group consisting of fetal calf serum and fetal bovine serum.

<sup>8</sup>  
~~45.~~ (Previously Presented) The method according to Claim <sup>6</sup>~~41~~<sup>e</sup>, wherein said explant is cultured in the presence of a material selected from the group consisting of growth factor beta (TGF- $\beta$ ), insulin-like growth factor I, insulin-like growth factor II, basic fibroblast growth factor, acidic fibroblast growth factor, platelet-derived growth factor, insulin, human recombinant bone morphogenetic protein 2, and vitamin D.

<sup>15</sup>  
~~46.~~ (Currently Amended) The method according to Claim <sup>49</sup>~~39~~, wherein said  
implanting step comprises:

debriding diseased or injured disc ~~cells~~ tissue in said patient; and  
then delivering said cultured human intervertebral disc cells into the area of debridement.

<sup>9</sup>  
~~47.~~ (Currently Amended) The method of Claim <sup>62</sup>~~41~~, further including the steps of:

(a) culturing said explant under conditions to propagate a monolayer of human  
intervertebral disc cells, ~~wherein said disc cells can be isolated and further propagated upon~~  
~~passaging~~;

(b) isolating said human intervertebral disc cells from said monolayer to form isolated  
disc cells;

(c) distributing said isolated human intervertebral disc cells in a carrier material such that  
said isolated disc cells form a three-dimensional structure; and

(d) ~~culturing~~ propagating said isolated human intervertebral cells in said three-  
dimensional structure.

<sup>10</sup>  
~~48.~~ (Currently Amended) The method according to Claim <sup>9</sup>~~47~~, wherein said live  
human intervertebral disc cells are obtained from said human patient to ~~be treated~~ whom the  
cultured cells are to be implanted.

49. (Previously Presented) The method according to Claim 47, wherein said  
~~monolayer~~ cultured explant of human intervertebral disc cells is combined with a carrier material.

50. (Previously Presented) The method according to Claim 49, wherein said carrier  
material is selected from the group consisting of alginate, agarose, collagen, and mixtures  
thereof.

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<sup>12</sup>  
~~51~~. (Previously Presented) The method according to Claim <sup>9</sup>~~47~~, wherein said explant is cultured in the presence of a material selected from the group consisting of fetal calf serum and fetal bovine serum.

52-58. (Cancelled)